

Use Attainability Analysis
for
WBID 0920 North Fork Blackwater River

Submitted by
SES, Inc.

to
Missouri Department of Natural Resources
Water Protection Program

Date received: November 14, 2007

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet A - Water Body Identification

I. Water Body Information (For water body being surveyed)

Water Body Name (from USGS 7.5' quad):	North Fork Blackwater River		
Missouri Water Body Identification (WBID) Number:	920		
8 digit HUC code:	10290108	County:	Johnson
Upstream Legal Description (from Table H):	T47N	R28W	Sec 12
Downstream Legal Description (from Table H):	T46N	R27W	Sec 12
Number of sites evaluated:	6		
List all site numbers, listed consequently upstream to downstream: 1, 2, 3, 4, 5, 6			

Site Locations Map(s): Attach a map of the entire segment with assessment sites clearly labeled.
Mark any other items that may be of interest.

II. Facility Information (list all permitted discharges to the water body segment)

Facility Name(s) and Permit Number(s): Miss Kitty's Saloon MO0128228
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III. UAA Surveyor (please print legibly)

Name of Surveyor:	Gilisa Gould	Telephone Number:	913.307.0054
Organization/Employer:	SES, Inc.		

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Signed: gilisa gould **Date:** 11.05.07

920

Lake Lafayette

Site 1

Site 2

Site 3

Site 4

Site 5

Site 6

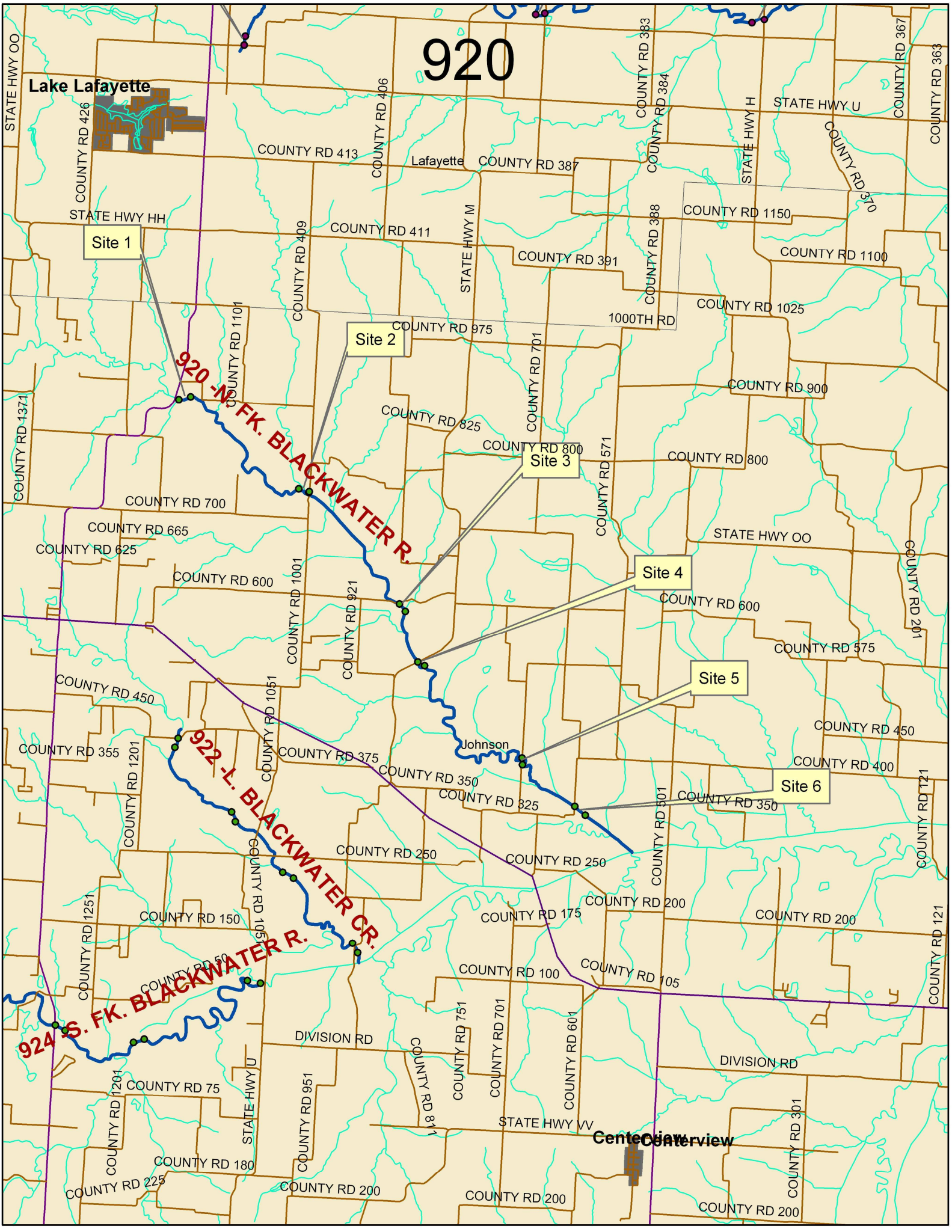
920-N. FK. BLACKWATER R.

922-L. BLACKWATER CR.

924-S. FK. BLACKWATER R.

Johnson

Center View



WBID # 920
 Site # 1

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 10.26.07	14:00	Site Location Description (e.g. road crossing):
Personnel: Gilisa Gould and Larissa Brown		Highway 131
Current Weather Conditions: cloudy/rain		Facility Name: Miss Kitty's Saloon
Weather conditions for the past 10 days: 1.96 inches		Permit Number: MO0128228
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>		

Site Location:

Location Coordinates (Universal Transverse Mercator Projection, In Meters)					
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0416656	4305468		5.1	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0416921	4305528		7.6	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
142	downstream, T1	143	upstream, T1	144	downstream, T11
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
145	upstream, T11				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 920
Site # 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input checked="" type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:
Comments: none				

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: none				

Substrate:

% Cobble	% Gravel 30	% Sand 50	% Silt	% Mud/Clay 20	% Bedrock
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Aquatic Vegetation:

none

Water Characteristics:

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: brown
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input checked="" type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 920
Site # 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

none

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Surveyor's Signature: gilisa gould Date of Survey: 10.26.07

Organization: SES, Inc. Position: field team leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>920</u> Site #: <u>1</u> Estimated Channel Incision: <u>2.0</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0416656</u> UTM Y: <u>4305468</u> +/- <u>5.1</u> (meters) 11 UTM X: <u>0416921</u> UTM Y: <u>4305528</u> +/- <u>7.6</u> (meters) Average Stream Width: <u>8</u> (meters) Length of Survey Segment: <u>160</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Gilisa Gould</u> and <u>Larissa Brown</u>	Dissolved Oxygen Date: <u>10.26.07</u> Time: <u>14:00</u> Dissolved Oxygen: <u>8.2</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>17.9</u> (°C)
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Station	Transect Cross-Section																					
	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.9	0.05	0.7	0.10	1.2	0.01	0.6	0.01	0.4	0.01	0.7	0.15	0.8	0.10	0.7	0.10	0.8	0.10	0.5	0.15	0.7	0.10
2	1.8	0.05	1.4	0.30	2.4	0.00	1.2	0.05	0.8	0.10	1.4	0.20	1.6	0.35	1.4	0.25	1.6	0.15	1.0	0.30	1.4	0.40
3	2.7	0.00	2.1	0.70	3.6	0.01	1.8	0.01	1.2	0.05	2.1	0.10	2.4	0.35	2.1	0.20	2.4	0.20	1.5	0.25	2.1	0.70
4	3.6	0.01	2.8	0.95	4.8	0.00	2.4	0.01	1.6	0.01	2.8	0.05	3.2	0.40	2.8	0.20	3.2	0.25	2.0	0.25	2.8	0.65
5	4.5	0.00	3.5	0.95	6.0	0.00	3.0	0.01	2.0	0.01	3.5	0.05	4.0	0.40	3.5	0.25	4.0	0.25	2.5	0.20	3.5	0.55
6	5.4	0.00	4.2	0.75	7.2	0.00	3.6	0.05	2.4	0.05	4.2	0.10	4.8	0.35	4.2	0.25	4.8	0.35	3.0	0.15	4.2	0.50
7	6.3	0.00	4.9	0.40	8.4	0.00	4.2	0.00	2.8	0.01	4.9	0.10	5.6	0.30	4.9	0.25	5.6	0.40	3.5	0.15	4.9	0.45
8	7.2	0.01	5.6	0.20	9.6	0.05	4.8	0.05	3.2	0.05	5.6	0.05	6.4	0.35	5.6	0.20	6.4	0.30	4.0	0.10	5.6	0.35
9	8.1	0.01	6.3	0.05	10.8	0.15	5.4	0.01	3.6	0.01	6.3	0.01	7.2	0.20	6.3	0.15	7.2	0.15	4.5	0.01	6.3	0.30
Right Bank	9.0	0.00	7.0	0.00	12.0	0.00	6.0	0.00	4.0	0.00	7.0	0.00	8.0	0.00	7.0	0.00	8.0	0.00	5.0	0.00	7.0	0.00
Feature Type (rifle, run, or pool)	rifle		pool		rifle		rifle		pool		pool		pool		pool		pool		pool		pool	

(riffle, run, or pool)

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: gilisa gould Date: 11.05.07

WBID # 920
 Site # 2

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 10.26.07 13:20	Site Location Description (e.g. road crossing):
Personnel: Gilisa Gould and Larissa Brown	CR 1001
Current Weather Conditions: cloud/rain	Facility Name: Miss Kitty's Saloon
Weather conditions for the past 10 days: 1.96 inches	Permit Number: MO 0128228
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

Location Coordinates (Universal Transverse Mercator Projection, In Meters)					
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0419275	4303517		11.2	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0419488	4303439		9.7	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
138	upstream, T11	139	downstream, T11	140	downstream, T1
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
141	upstream, T1				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 920
Site # 2

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input checked="" type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input checked="" type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:
Comments: none				

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: none				

Substrate:

% Cobble	% Gravel 30	% Sand 40	% Silt	% Mud/Clay 30	% Bedrock
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Aquatic Vegetation:

none

Water Characteristics:

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: brown
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 920
Site # 2

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

none

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Surveyor's Signature: gilisa gould Date of Survey: 10.26.07

Organization: SES, Inc. Position: field team leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>920</u> Site #: <u>2</u> Estimated Channel Incision: <u>4.0</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0419488</u> UTM Y: <u>4303439</u> +/- <u>11.2</u> (meters) 11 UTM X: <u>0419275</u> UTM Y: <u>4303517</u> +/- <u>9.7</u> (meters) Average Stream Width: <u>6</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Gilisa Gould</u> and <u>Larissa Brown</u>	Dissolved Oxygen Date: <u>10.26.07</u> Time: <u>13:20</u> Dissolved Oxygen: <u>8.2</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>17.8</u> (°C)
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Station	Transect Cross-Section																					
	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.4	0.01	0.6	0.01	0.4	0.01	0.4	0.01	0.6	0.05	0.7	0.01	0.1	0.01	0.5	0.01	0.6	0.01	0.5	0.05	0.5	0.01
2	0.8	0.05	1.2	0.05	0.8	0.00	0.8	0.05	1.2	0.10	1.4	0.05	0.2	0.10	1.0	0.05	1.2	0.05	1.0	0.05	1.0	0.10
3	1.2	0.05	1.8	0.05	1.2	0.01	1.2	0.10	1.8	0.20	2.1	0.10	0.3	0.05	1.5	0.10	1.8	0.15	1.5	0.15	1.5	0.10
4	1.6	0.01	2.4	0.05	1.6	0.05	1.6	0.05	2.4	0.15	2.8	0.10	0.4	0.05	2.0	0.15	2.4	0.15	2.0	0.20	2.0	0.20
5	2.0	0.01	3.0	0.05	2.0	0.05	2.0	0.05	3.0	0.10	3.5	0.10	0.5	0.15	2.5	0.15	3.0	0.20	2.5	0.20	2.5	0.20
6	2.4	0.05	3.6	0.05	2.4	0.05	2.4	0.00	3.6	0.10	4.2	0.05	0.6	0.15	3.0	0.15	3.6	0.20	3.0	0.20	3.0	0.30
7	2.8	0.05	4.2	0.01	2.8	0.05	2.8	0.05	4.2	0.15	4.9	0.05	0.7	0.05	3.5	0.05	4.2	0.15	3.5	0.10	3.5	0.30
8	3.2	0.01	4.8	0.01	3.2	0.01	3.2	0.01	4.8	0.10	5.6	0.01	0.8	0.05	4.0	0.01	4.8	0.10	4.0	0.10	4.0	0.10
9	3.6	0.01	5.4	0.01	3.6	0.01	3.6	0.01	5.4	0.05	6.3	0.01	0.9	0.01	4.5	0.01	5.4	0.05	4.5	0.05	4.5	0.05
Right Bank	4.0	0.00	6.0	0.00	4.0	0.00	4.0	0.00	6.0	0.00	7.0	0.00	1.0	0.00	5.0	0.00	6.0	0.00	5.0	0.00	5.0	0.00
Feature Type (rifle, run, or pool)	pool		pool		pool		pool		pool		pool		pool		pool		pool		pool		pool	

(riffle, run, or pool)

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: gilisa gould Date: 11.05.07

WBID # 920
 Site # 3

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 10.26.07 12:45	Site Location Description (e.g. road crossing):
Personnel: Gilisa Gould and Larissa Brown	CR 600
Current Weather Conditions: rain/cloudy	Facility Name: Miss Kitty's Saloon
Weather conditions for the past 10 days:	Permit Number: MO 0128228
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

Location Coordinates (Universal Transverse Mercator Projection, In Meters)					
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0421462	4301014		8.5	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0421588	4300854		6.0	

Photos:

Photo ID#	Photo Purpose	Photo ID#:	Photo Purpose	Photo ID#:	Photo Purpose
133	downstream, T1	134	upstream, T1	135	"hang out spot"
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
136	downstream, T11	137	upstream, T11		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 920
Site # 3

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:
Comments: none				

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input checked="" type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: under bridge "hang out" area with fire pit and seating				

Substrate:

% Cobble	% Gravel 30	% Sand 30	% Silt 10	% Mud/Clay 30	% Bedrock
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Aquatic Vegetation:

none

Water Characteristics:

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: brown
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 920
Site # 3

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

none

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Surveyor's Signature: gilisa gould Date of Survey: 10.26.07

Organization: SES, Inc. Position: field team leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>920</u> Site #: <u>3</u>															Dissolved Oxygen				
Estimated Channel Incision: <u>3.0</u> (m) (height between low bank width and water)															Date: <u>10.26.07</u> Time: <u>12:45</u>				
GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM)															Dissolved Oxygen: <u>7.3</u> (mg/L)				
01 UTM X: <u>0421462</u> UTM Y: <u>4301014</u> +/- <u>8.5</u> (meters)															Dissolved Oxygen: _____ (% sat)				
11 UTM X: <u>0421588</u> UTM Y: <u>4300854</u> +/- <u>6.0</u> (meters)															Specific Cond: _____ (µS/cm)				
Average Stream Width: <u>7</u> (meters) Length of Survey Segment: <u>150</u> (meters)															Water Temperature: <u>13.9</u> (°C)				
(To determine Length of Reach) (20x average stream width)																			
Field Staff: <u>Gilisa Gould</u> and <u>Larissa Brown</u>																			

Station	Transect Cross-Section																					
	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.6	0.01	0.3	0.05	0.6	0.10	0.7	0.15	0.3	0.01	0.7	0.05	0.6	0.01	0.7	0.05	0.6	0.05	0.1	0.01	0.7	0.30
2	1.2	0.05	0.6	0.10	1.2	0.60	1.4	0.40	0.6	0.05	1.4	0.10	1.2	0.05	1.4	0.05	1.2	0.10	0.2	0.00	1.4	0.45
3	1.8	0.05	0.9	0.10	1.8	0.70	2.1	0.60	0.9	0.15	2.1	0.15	1.8	0.10	2.1	0.15	1.8	0.01	0.3	0.05	2.1	0.40
4	2.4	0.20	1.2	0.05	2.4	0.75	2.8	0.60	1.2	0.20	2.8	0.15	2.4	0.15	2.8	0.10	2.4	0.01	0.4	0.10	2.8	0.20
5	3.0	0.20	1.5	0.01	3.0	0.65	3.5	0.60	1.5	0.15	3.5	0.10	3.0	0.25	3.5	0.01	3.0	0.15	0.5	0.10	3.5	0.15
6	3.6	0.15	1.8	0.01	3.6	0.50	4.2	0.55	1.8	0.15	4.2	0.10	3.6	0.25	4.2	0.01	3.6	0.10	0.6	0.05	4.2	0.15
7	4.2	0.10	2.1	0.01	4.2	0.50	4.9	0.40	2.1	0.10	4.9	0.05	4.2	0.20	4.9	0.10	4.2	0.05	0.7	0.05	4.9	0.05
8	4.8	0.10	2.4	0.01	4.8	0.30	5.6	0.20	2.4	0.05	5.6	0.10	4.8	0.20	5.6	0.10	4.8	0.01	0.8	0.01	5.6	0.05
9	5.4	0.05	2.7	0.01	5.4	0.15	6.3	0.10	2.7	0.01	6.3	0.10	5.4	0.10	6.3	0.05	5.4	0.01	0.9	0.01	6.3	0.01
Right Bank	6.0	0.00	3.0	0.00	6.0	0.00	7.0	0.00	3.0	0.00	7.0	0.00	6.0	0.00	7.0	0.00	6.0	0.00	1.0	0.00	7.0	0.00
Feature Type <small>(riffle, run, or pool)</small>	pool		riffle		pool		pool		pool		pool		pool		pool		pool		pool		pool	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: gilisa gould Date: 11.06.07

WBID # 920
 Site # 4

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 10.26.07 11:00	Site Location Description (e.g. road crossing):
Personnel: Gilisa Gould and Larissa Brown	Highway M
Current Weather Conditions: rain/cloudy	Facility Name: Miss Kitty's Saloon
Weather conditions for the past 10 days: 1.96 inches	Permit Number: MO0128228
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

Location Coordinates (Universal Transverse Mercator Projection, In Meters)					
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0421864	4299745		3.0	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0422010	4299667		3.0	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
128	downstream, T1	129	upstream, T1	130	footprints
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
131	downstream, T11	132	upstream, T11		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 920
 Site # 4

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:
Comments: none				

Evidence of Human Use:

<input type="checkbox"/> Roads	<input checked="" type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: none				

Substrate:

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
	30	30	10	30	

Aquatic Vegetation:

along banks only

Water Characteristics:

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other:
					brown
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input checked="" type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 920
Site # 4

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

none

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Surveyor's Signature: gilisa gould Date of Survey: 10.26.07

Organization: SES, Inc. Position: field team leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>920</u> Site #: <u>4</u>															Dissolved Oxygen				
Estimated Channel Incision: <u>3.0</u> (m) (height between low bank width and water)															Date: <u>10.26.07</u> Time: <u>11:00</u>				
GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM)															Dissolved Oxygen: <u>9.7</u> (mg/L)				
01 UTM X: <u>0421864</u> UTM Y: <u>4299745</u> +/- <u>3.0</u> (meters)															Dissolved Oxygen: _____ (% sat)				
11 UTM X: <u>0422010</u> UTM Y: <u>4299667</u> +/- <u>3.0</u> (meters)															Specific Cond: _____ (µS/cm)				
Average Stream Width: <u>8</u> (meters) Length of Survey Segment: <u>160</u> (meters)															Water Temperature: <u>17.7</u> (°C)				
(To determine Length of Reach) (20x average stream width)																			
Field Staff: <u>Gilisa Gould</u> and <u>Larissa Brown</u>																			

Station	Transect Cross-Section																					
	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.7	0.15	0.7	0.10	0.9	0.05	1.1	0.15	0.9	0.10	0.5	0.01	0.6	0.05	0.6	0.05	0.7	0.05	0.8	0.05	1.0	0.35
2	1.4	0.40	1.4	0.25	1.8	0.20	2.2	0.55	1.8	0.15	1.0	0.01	1.2	0.01	1.2	0.20	1.4	0.15	1.6	0.15	2.0	0.80
3	2.1	0.45	2.1	0.35	2.7	0.35	3.3	1.00	2.7	0.30	1.5	0.25	1.8	0.01	1.8	0.20	2.1	0.25	2.4	0.20	3.0	0.95
4	2.8	0.30	2.8	0.45	3.6	0.40	4.4	1.00	3.6	0.30	2.0	0.30	2.4	0.01	2.4	0.30	2.8	0.25	3.2	0.10	4.0	1.00
5	3.5	0.45	3.5	0.40	4.5	0.30	5.5	1.00	4.5	0.35	2.5	0.30	3.0	0.05	3.0	0.35	3.5	0.00	4.0	0.20	5.0	1.00
6	4.2	0.45	4.2	0.30	5.4	0.20	6.6	0.90	5.4	0.30	3.0	0.30	3.6	0.20	3.6	0.35	4.2	0.45	4.8	0.10	6.0	1.00
7	4.9	0.20	4.9	0.20	6.3	0.10	7.7	0.80	6.3	0.30	3.5	0.20	4.2	0.30	4.2	0.30	4.9	0.30	5.6	0.10	7.0	0.10
8	5.6	0.15	5.6	0.10	7.2	0.10	8.8	0.80	7.2	0.20	4.0	0.05	4.8	0.30	4.8	0.20	5.6	0.30	6.4	0.10	8.0	0.95
9	6.3	0.15	6.3	0.05	8.1	0.05	9.9	0.40	8.1	0.05	4.5	0.05	5.4	0.20	5.4	0.05	6.3	0.15	7.2	0.05	9.0	0.40
Right Bank	7.0	0.00	7.0	0.00	9.0	0.00	11.0	0.00	9.0	0.00	5.0	0.00	6.0	0.00	6.0	0.00	7.0	0.00	8.0	0.00	10.0	0.00
Feature Type (riffle, run, or pool)	pool		pool		pool		pool		pool		pool		pool		pool		pool		pool		pool	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: gilisa gould Date: 11.06.07

WBID # 920
 Site # 5

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 10.26.07	10:20	Site Location Description (e.g. road crossing):
Personnel: Gilisa Gould and Larissa Brown		CR 701
Current Weather Conditions: rain/cloudy		Facility Name: Miss Kitty's Saloon
Weather conditions for the past 10 days: 1.96 inches		Permit Number: MO0128228
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>		

Site Location:

Location Coordinates (Universal Transverse Mercator Projection, In Meters)					
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0424131	4297658		6.4	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0424142	4297506		6.0	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
124	downstream, T1	125	upstream, T1	126	downstream, T11
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
127	upstream, T11				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 920
 Site # 5

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:
Comments: none				

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: none				

Substrate:

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
	20	50		30	

Aquatic Vegetation:

none

Water Characteristics:

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other:
					brown
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 920
Site # 5

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

none

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Surveyor's Signature: gilisa gould Date of Survey: 10.26.07

Organization: SES, Inc. Position: field team leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>920</u> Site #: <u>5</u> Estimated Channel Incision: <u>4.0</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0424131</u> UTM Y: <u>4297658</u> +/- <u>6.4</u> (meters) 11 UTM X: <u>0424142</u> UTM Y: <u>4297506</u> +/- <u>6.0</u> (meters) Average Stream Width: <u>7</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Gilisa Gould and Larissa Brown</u>	Dissolved Oxygen Date: <u>10.26.07</u> Time: <u>10:20</u> Dissolved Oxygen: <u>10.9</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>19.3</u> (°C)
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Station	Transect Cross-Section																					
	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.6	0.05	0.3	0.05	0.7	0.15	0.7	0.10	0.4	0.01	0.6	0.01	0.3	0.05	0.5	0.05	0.7	0.01	0.6	0.01	0.4	0.01
2	1.2	0.15	0.6	0.25	1.4	0.30	1.4	0.45	0.8	0.01	1.2	0.05	0.6	0.05	1.0	0.05	1.4	0.05	1.2	0.05	0.8	0.01
3	1.8	0.10	0.9	0.35	2.1	0.15	2.1	0.45	1.2	0.01	1.8	0.10	0.9	0.01	1.5	0.10	2.1	0.10	1.8	0.05	1.2	0.05
4	2.4	0.20	1.2	0.30	2.8	0.30	2.8	0.30	1.6	0.10	2.4	0.15	1.2	0.10	2.0	0.10	2.8	0.05	2.4	0.10	1.6	0.05
5	3.0	0.30	1.5	0.15	3.5	0.35	3.5	0.20	2.0	0.10	3.0	0.15	1.5	0.10	2.5	0.10	3.5	0.00	3.0	0.15	2.0	0.05
6	3.6	0.00	1.8	0.15	4.2	0.45	4.2	0.20	2.4	0.05	3.6	0.10	1.8	0.05	3.0	0.10	4.2	0.00	3.6	0.20	2.4	0.05
7	4.2	0.10	2.1	0.15	4.9	0.55	4.9	0.15	2.8	0.05	4.2	0.15	2.1	0.05	3.5	0.05	4.9	0.05	4.2	0.20	2.8	0.05
8	4.8	0.10	2.4	0.05	5.6	0.25	5.6	0.10	3.2	0.05	4.8	0.10	2.4	0.10	4.0	0.05	5.6	0.20	4.8	0.10	3.2	0.05
9	5.4	0.05	2.7	0.01	6.3	0.10	6.3	0.05	3.6	0.01	5.4	0.05	2.7	0.05	4.5	0.01	6.3	0.20	5.4	0.10	3.6	0.01
Right Bank	6.0	0.00	3.0	0.00	7.0	0.00	7.0	0.00	4.0	0.00	6.0	0.00	3.0	0.00	5.0	0.00	7.0	0.00	6.0	0.00	4.0	0.00
Feature Type (riffle, run, or pool)	pool		pool		pool		pool		pool		pool		riffle		pool		run		pool		pool	

(riffle, run, or pool)

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: gilisa gould Date: 11.06.07

WBID # 920
 Site # 6

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 10.26.07 9:30	Site Location Description (e.g. road crossing):
Personnel: Gilisa Gould and Larissa Brown	CR 350
Current Weather Conditions: rain/cloudy	Facility Name: Miss Kitty's Saloon
Weather conditions for the past 10 days: 1.96 inches	Permit Number: MO0128228
Drought conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

Location Coordinates (Universal Transverse Mercator Projection, In Meters)					
Site 01	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0425280	4296601		3.6	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:	Meters	
	0425506	4296409		5.1	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
120	upstream, T1	121	downstream, T1	122	downstream, T11
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
123	upstream, T11				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water Skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe:				

WBID # 920
 Site # 6

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:
Comments: none				

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: none				

Substrate:

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
	40	30		30	

Aquatic Vegetation:

none

Water Characteristics:

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other:
					brown
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 920
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Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

none

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Surveyor's Signature: gilisa gould Date of Survey: 10.26.07

Organization: SES, Inc. Position: field team leader

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>920</u> Site #: <u>6</u> Estimated Channel Incision: <u>4.0</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0425280</u> UTM Y: <u>4296601</u> +/- <u>3.6</u> (meters) 11 UTM X: <u>0425506</u> UTM Y: <u>4296409</u> +/- <u>5.1</u> (meters) Average Stream Width: <u>7</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Gilisa Gould</u> and <u>Larissa Brown</u>	Dissolved Oxygen Date: <u>10.26.07</u> Time: <u>9:30</u> Dissolved Oxygen: <u>12.8</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>14.6</u> (°C)
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Station	Transect Cross-Section																					
	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.6	0.01	1.0	0.40	0.8	0.40	0.8	0.05	0.7	0.05	0.7	0.20	0.6	0.01	0.6	0.10	0.7	0.15	0.8	0.05	0.7	0.10
2	1.2	0.02	2.0	0.85	1.6	0.60	1.6	0.30	1.4	0.15	1.4	0.40	1.2	0.20	1.2	0.20	1.4	0.40	1.6	0.20	1.4	0.45
3	1.8	0.00	3.0	0.95	2.4	0.65	2.4	0.35	2.1	0.10	2.1	0.50	1.8	0.25	1.8	0.15	2.1	0.35	2.4	0.10	2.1	0.55
4	2.4	0.05	4.0	1.00	3.2	0.60	3.2	0.45	2.8	0.25	2.8	0.50	2.4	0.30	2.4	0.15	2.8	0.30	3.2	0.15	2.8	0.45
5	3.0	0.01	5.0	1.00	4.0	0.60	4.0	0.55	3.5	0.30	3.5	0.35	3.0	0.20	3.0	0.10	3.5	0.25	4.0	0.15	3.5	0.40
6	3.6	0.05	6.0	1.00	4.8	0.75	4.8	0.60	4.2	0.35	4.2	0.40	3.6	0.15	3.6	0.05	4.2	0.20	4.8	0.15	4.2	0.35
7	4.2	0.00	7.0	1.00	5.6	0.90	5.6	0.45	4.9	0.25	4.9	0.35	4.2	0.10	4.2	0.05	4.9	0.15	5.6	0.20	4.9	0.25
8	4.8	0.05	8.0	0.65	6.4	0.70	6.4	0.40	5.6	0.15	5.6	0.20	4.8	0.10	4.8	0.05	5.6	0.05	6.4	0.15	5.6	0.20
9	5.4	0.01	9.0	0.15	7.2	0.40	7.2	0.25	6.3	0.15	6.3	0.10	5.4	0.05	5.4	0.05	6.3	0.05	7.2	0.05	6.3	0.05
Right Bank	6.0	0.00	10.0	0.00	8.0	0.00	8.0	0.00	7.0	0.00	7.0	0.00	6.0	0.00	6.0	0.00	7.0	0.00	8.0	0.00	7.0	0.00
Feature Type <small>(riffle, run, or pool)</small>	riffle		pool		pool		pool		pool		pool		pool		pool		pool		pool		pool	

(riffle, run, or pool)

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: gilisa gould Date: 11.06.07

WBID# 0920 North Fork Blackwater River



Site# 1 Photo ID# 142, Downstream, T1



Site#1 Photo ID# 143, Upstream, T1



Site# 1 Photo ID# 144, Downstream, T 11



Site# 1 Photo ID# 145, Upstream, T 11

WBID# 0920 North Fork Blackwater River



Site# 2 Photo ID# 140, Downstream, T1



Site#2 Photo ID# 141, Upstream, T1



Site# 2 Photo ID# 139, Downstream, T 11



Site# 2 Photo ID# 138, Upstream, T 11

WBID# 0920 North Fork Blackwater River



Site# 3 Photo ID# 133, Downstream, T1



Site#3 Photo ID# 134, Upstream, T1



Site# 3 Photo ID# 135, Hang out spot



Site# 3 Photo ID# 137, Upstream, T 11

WBID# 0920 North Fork Blackwater River



Site# 3 Photo ID# 136, Downstream, T11



Site#4 Photo ID# 129, Upstream, T1



Site# 4 Photo ID# 128, Downstream, T 1



Site# 4 Photo ID# 130, Footprints

WBID# 0920 North Fork Blackwater River



Site# 4 Photo ID# 131, Downstream, T11



Site# 4 Photo ID# 132, Upstream, T11



Site# 5 Photo ID# 124, Downstream, T 1



Site# 5 Photo ID# 125, Upstream, T 1

WBID# 0920 North Fork Blackwater River



Site# 5 Photo ID# 126, Downstream, T11



Site# 5 Photo ID# 127, Upstream, T11



Site# 6 Photo ID# 120, Downstream, T 1



Site# 6 Photo ID# 121, Upstream, T 1

WBID# 0920 North Fork Blackwater River



Site# 6 Photo ID# 122, Downstream, T11



Site# 6 Photo ID# 123, Upstream, T11